TITLE

URL DATABASE APPLICATION

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

[0001]   This invention relates generally to
indexing and searching URLs in a computer network.
More particularly, it relates to a systems, software,
and methods for providing a user with a way to store,
5   search, and retrieve Web pages in an Internet
environment using a Web browser.

DISCUSSION OF THE BACKGROUND ART

[0002]   Networking of computers and computer
systems into a network of computer systems is a well
10   known technique for sharing collective resources
available within the network among users.   The
largest of these is the Internet, also referred to as
the World Wide Web, or simply "the Web" and it
provides the most commonly used method of
15   transferring data in a networking environment.   For a
more detailed explanation, see United States Patent
No. 6,247,021 to Himmel et al.   Transactions on the
Web use the Hypertext Transfer Protocol (HTTP) which
is a known application protocol providing users
20   access to files, e.g., text, graphics, images, sound,
video, using a standard page description language
known as the Hypertext Markup Language (HTML).   HTML
provides basic document formatting and allows the
developer to specify "links" to other servers and
25   files.   In the Internet paradigm, a network path to a
server is identified by a Uniform Resource Locator
(URL) having a special syntax for defining a network

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connection.

[0003]   Retrieval of information is generally achieved by the use of an HTML-compatible "browser", e.g., Netscape Navigator or Microsoft's Explorer, on
5   a user's computer. When the user of the browser specifies a link via a URL, the client issues a request to a naming service to map a host-name in the URL to a particular network IP address at which the server is located. The naming service returns a list
10 of one or more IP addresses that can respond to the request. Using one of the IP addresses, the browser establishes a connection to a server. If the server is available, it returns a document or other object formatted according to HTML. Web browsers have
15 become the primary interface for access to many network and server services including intranets and extranets as well as the World Wide Web or Internet.

[0004]   Browsers provide a useful means of returning to a favorite URL, by the creation of user
20 stored "bookmarks" or "favorites" in the browser. Netscape uses the term bookmark while Explorer uses the term favorite. For the purpose of this patent, bookmark and favorites are used generically and interchangeably to denote and represent these terms
25 and any other similar terms used to describe a saved URL. Lists of these bookmarks offer a means of Web page search and retrieval. The user can cause the browser to display his bookmark list and select among the stored bookmarks to go directly to a favorite
30 page. Thus, the user is not forced to enter a lengthy URL nor retrace the original tortuous route through the Internet by which he may have arrived at the Web site. Once a bookmark is added to a bookmark list, in general, the bookmark becomes a permanent
35 part of the browser until removed. The permanence and accessibility of bookmarks have made them a valuable means for personalizing a user's Internet

access through the browser. Typically a URL
navigation graphical user interface (GUI) is used in
Netscape Navigator or Microsoft's Explorer to allow
an end-user to simply click on one of a number of
5   listed URL's or titles of URLs and be directly
connected to the URL link or website on network such
as the internet.

[0005]   The large number of bookmarks that a user
maintains in bookmark lists becomes difficult to
10   manage and use and it is difficult to remember which
bookmarks and URLs have been saved. It is not
uncommon that hundreds of bookmarks be stored in a
bookmark list file after a few weeks of Web browsing.
While folders in some browsers have helped the user
15   group his bookmarks by category, in reality, the
bookmark file is one huge list of bookmarks, all
accessible to the user through the browser.

[0006]   These problems as well as others are
addressed in various embodiments of the present
20   invention.

SUMMARY OF THE INVENTION

[0007]   URL database software stored in machine
readable format includes database software and system
for storing URL links in a database on an end-user
25   computer. The database has records and each of the
records has at least three fields relating to a
single URL link which is stored in a first field. A
second field is used to store an editable URL title
and a third field is used to store user entered
30   notes. A URL navigation means is used to navigate
and connect said end-user computer to a URL site
associated with a selected one of at least one of
said first, second, and third fields of said records
displayed by said URL navigation means. A database
35   graphical user interface displays the second field of
the URL titles, has a means for a user to select a

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record by selecting one of the displayed URL titles,
and displays associated ones of the second field of
the URL links and notes from the selected record. In
an exemplary embodiment of the invention disclosed
5   herein, the database graphical user interface further
includes a means for entering the URL links in the
first fields, a means for entering the URL titles in
the second fields, and a means for entering notes in
the third fields. One means for entering the URL
10 links in the first fields includes a Web browser on
the end-user computer with a means to find and select
a URL link and an add button on the database
graphical user interface to enter a selected URL link
in one of the first fields.

15 [0008]   In a more particular embodiment of the
invention, the software further includes a means for
grouping the URL links and associated records in
selectable groups displayed on a screen displayed by
the database graphical user interface. The database
20 graphical user interface includes a means for
entering the URLs in the first fields of a
categorized record in a selected group, a means for
entering the URL titles in the second fields of the
categorized record, and a means for entering notes in
25 the third fields of the categorized record. Another
embodiment includes a means for selecting one or more
of the groups to be hidden from display on the screen
displayed by a URL navigation graphical user
interface. Yet another embodiment includes a means
30 for selecting one or more of the records in one of
the groups to be hidden from display on the screen
displayed by the URL navigation graphical user
interface. Sort and search means and an automated
log-in means are provided in the graphical user
35 interface of more particular embodiments of the
invention.

[0009]   The present invention helps manage large

number of bookmarks or favorites that a user
maintains in bookmark or favorites lists.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010]   The novel features believed characteristic
of the present invention are set forth and
differentiated in the claims. The invention,
together with further objects and advantages thereof,
is more particularly described in conjunction with
the accompanying drawings in which:

[0011]   FIG. 1 is a screen shot illustration of an
icon on a Microsoft Windows Desktop screen for
launching "HOT SHOT" which is an exemplary embodiment
of application software containing URL database
software of the present invention.

[0012]   FIG. 2 is a screen shot illustration of a
first window displayed by the application software
initiated by the icon illustrated in FIG. 1 with a
button labelled "Favorites Plus" to launch the URL
database software.

[0013]   FIG. 3 is a screen shot illustration of two
fields of records in the URL database software.

[0014]   FIG. 4 is a screen shot illustration of a
third field of records in the URL database software.

[0015]   FIG. 5 is a screen shot illustration of a
password means for storing log-in information in the
URL database software.

[0016]   FIG. 6 is a screen shot illustration of a
first step in a means to add grouping of records in
the URL database software.

[0017]   FIG. 7 is a screen shot illustration of a
second step in the means to add grouping of records
in the URL database software.

[0018]   FIG. 8 is a screen shot illustration of a
group hiding means for selecting one or more of the
groups to be hidden from display on the screen
displayed by the graphical user interface.

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[0019]   FIG. 9 is a screen shot illustration of results of the group hiding means illustrated in FIG. 8.

[0020]   FIG. 10 is a screen shot illustration of a record hiding means for selecting one or more of the records to be hidden from display on the screen displayed by the graphical user interface.

[0021]   FIG. 11 is a screen shot illustration of results of the record hiding means illustrated in FIG. 10.

[0022]   FIG. 12 is a screen shot illustration of a group unhiding means for selecting one or more hidden groups to be unhidden.

[0023]   FIG. 13 is a screen shot illustration of a unchecking a hidden group.

[0024]   FIG. 14 is a screen shot illustration of results of the group unhiding illustrated in FIGS. 12 and 13.

[0025]   FIG. 15 is a screen shot illustration of a link unhiding means for selecting one or more hidden links to be unhidden.

[0026]   FIG. 16 is a screen shot illustration of a URL import means for importing URLs found using a browser into the URL database.

[0027]   FIG. 17 is a screen shot illustration of results of the link unhiding illustrated in FIGS. 15 and 16.

[0028]   FIG. 18 is a screen shot illustration of a URL import means for importing URLs found using a browser into the URL database.

[0029]   FIG. 19 is a screen shot illustration of a search means for searching on terms in the records of the URL database.

DETAILED DESCRIPTION

[0030]   Illustrated in FIG. 1 is an application icon 10 labeled Hot Shot which appears on a Microsoft

desktop screen 12 of an end-user computer monitor and which invokes an exemplary windows application entitled Hot Shot. Hot shot includes an exemplary embodiment of URL database software of the present

5 invention which is entitled Favorites Plus! in the FIGS. The exemplary embodiment of URL database software is stored in machine readable format and operably associated with the end-user computer. When the Hot Shot application is invoked, a first window

10 14 (illustrated in the form of a banner) is displayed as illustrated in FIG. 2. The present invention employs a database graphical user interface illustrated herein as a plurality of windows to input and view information in the database software and

15 execute software functions. In the exemplary embodiment of the invention, the URL database software is stored on the end-user computer. The software in the exemplary embodiment of the invention is in object oriented computer code used by many

20 software programmers. The means of the present invention are in the form of computer codes that may be written as computer programs or sub-programs or sub-routines of computer programs as well as object code. The means further may in various embodiments

25 include typical computer features and components such as graphical user interfaces (GUI) and computers and computer systems.

[0031] The URL database software includes a database means for storing URL bookmarks or favorites, as illustrated herein, in a URL database

30 on the end-user computer. The URL database software is described herein using various windows that illustrate the software's operation and functions. Clicking on a Favorites Plus! button 16 brings up a

35 second window 18 illustrated in FIG. 3 used to store, index, and manage information in the URL database. The URL database contains records 20 wherein each of

the records relates to or is associated with a single
URL 24. Each record 20 has at least three fields
illustrated by first and second fields 22 and 26 in a
Link Information box 25 illustrated in FIG. 3 and a
5   third field 28 illustrated in FIG. 4.

[0032]   The first field 22 contains the URL 24, the
second field 26 contains an editable URL title 30,
and the third field is used to store user entered
notes 32. The second window 18 in FIG. 3 displays a
10   titles window 44 containing a URL title list 33 of
the URL titles 30 from the second fields and a user
may select a record for editing by clicking on one of
the displayed URL titles in the title list. Clicking
on a notes button 34 in the second window 18 in FIG.
15   3 brings up a fourth window 38 illustrated in FIG. 4
which displays the notes 32 in the third field 28 for
the selected URL 24. The notes are particular to the
selected URL and upon completion of the entry of the
notes into a Notes box 60, the information is saved
20   or stored by clicking on an OK button 62. A record
may be selected for editing or for reviewing the
information in the fields of the record by clicking
on one of the URL titles 30 displayed in the titles
window 44 in FIGS. 3 and 4. Information or notes
25   about the record or URL may be entered into the third
field 28, such as descriptive terms or reminders.
Illustrated further down in the patent is a searching
means, as commonly found in database applications, to
search the fields such as the URL title 30 and/or the
30   notes 32.

[0033]   The exemplary embodiment of the invention
illustrated herein includes a password means for
storing log-in information which allows the end-user
to record a script of a sequence of keystrokes
35   performed to log-in to a password secured URL, to
save the script to a field in the database, generate
a log-in script which the browser will run whenever

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it detects the end-user navigating to the password
secured URL with the defined script, and
automatically log the end-user in to the password
secured URL. The means for storing log-in
5   information is illustrated in FIGS. 3 and 4 as a
log-in information button 50. Clicking on the log-in
information button 50 brings up a fifth screen 52
illustrated in FIG. 5 further illustrating the
password means for storing log-in information. The
10   password means allow the user to enter log-in
information such as a user name 68 and Password 74
into fourth and fifth fields 70 and 72, respectively,
of appropriate ones of the records 20 illustrated in
a Log-In Information box 64 in the fifth screen 52.
15   The password means records a script of a sequence of
keystrokes performed to log-in to a password secured
URL using a password and usually a user name also.
The user name and password are, of course, particular
to the selected URL and upon completion of the entry
20   of the user name and password, the information is
stored by clicking on the Close button 66.

[0034]   Note that for embodiments of the invention
illustrated herein, an ADD button 48 is used in these
above windows to provide a means for entering the
25   URLs in the first fields, a means for entering the
URL titles in the second fields, and a means for
entering notes in the third fields. Clicking on the
ADD button allows the end-user to enter the
associated information in the fields. An Edit button
30   63 is used to change fields and an OK button 62 or
the Close button 66 saves the additions or changes to
the various entries, records, and fields that are
made. Information may be added using the keyboard to
type in the information in the records.

35   [0035]   The exemplary embodiment of the invention
illustrated herein includes a means for grouping the
URL bookmarks and associated records in selectable

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categories or groups illustrated by group titles 78
displayed on a screen of the database graphical user
interface. This feature is illustrated in FIGS. 3
and 4 as a group title box 76 which displays the
5   group titles 78 which the end-user enters using the
second window 18 illustrated in FIG. 3. Either a
Groups button 80 or a links button 82 is elected by
the end-user to edit groups and group information for
the group titles 78 in the group title box 76. Each
10   group contains records and displays a default group
title for records not assigned to a group such as a
term "no group" in the group title box 76. Clicking
on the Groups button 80 brings up a sixth screen 84
illustrated in FIG. 6 having the group title box 76
15   and the ADD button 48. Clicking on the ADD button 48
brings up a seventh screen 94 illustrated in FIG. 7
which allows the user to enter a new group title 78
such as MUSIC in a group title entry box 90 which is
then saved and added to the group title box 76 by
20   clicking on the OK button 62. This returns the end-
user to the sixth screen 84 illustrated in FIG. 6
which would then display the just added group title
78 MUSIC in the group title box 76.
     [0036]   The URL database software includes a URL
25   navigation means for navigating to sites of URLs in
the records using a web browser. One exemplary
embodiment of the URL navigation means is illustrated
in FIGS. 2 and 11. The URL navigation means
illustrated herein has a URL navigation graphical
30   user interface that includes a menu selection box 17
illustrated first in FIG. 2 and a favorites pull-down
menu 108 illustrated in FIG. 11 which is displayed by
clicking on a menu opening button 19 in the selection
menu box. The pull-down menu 108 displays a Groups
35   List 102 containing the different URL titles 30 or
group titles 78. If groups are used then URL tiles
of records in the displayed groups are displayed

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within sub-menus 109 of the pull-down menu 108.
Clicking on one of the URL titles 30 will cause the
associated URL link to open.

[0037]   The exemplary embodiment of the invention

5   also includes group hiding and unhiding means for
selecting one or more of the groups to be hidden and
unhidden from display on the screen displayed by the
URL navigation graphical user interface of the URL
navigation means illustrated in FIGS. 2 and 11. The

10   group hiding means is illustrated in the exemplary
embodiment starting with the sixth screen 84
illustrated in FIG. 6. A group which is to be hidden
is selected from the group titles 78 in the group
title box 76 and then the Edit button 63 is clicked

15   which brings up the seventh screen 94 illustrated in
FIG. 7. The group hiding means allows the end-user
to hide a group by checking or clicking upon the hide
group check box 100. For example, the group Music is
hidden by checking the group check box 100 such as

20   illustrated in FIG. 8. FIG. 9 illustrates the result
of hiding a group in the Favorites Plus application
and as can be seen the Groups List 102 does not
include Music which was hidden in the step
illustrated in FIG. 8. The exemplary embodiment of

25   the invention also includes a record hiding means for
selecting one or more of the records to be hidden
from display on the screen displayed by the graphical
user interface as illustrated in FIG. 10. A link or
record is hidden by checking the Hide Link records

30   check box 106. For example, the link or record
Recipe is hidden by checking the Hide Link records
check box 106. FIG. 11 illustrates the change in the
Favorites Plus application under a favorites pull-
down menu 108 which now does not include the Recipe

35   record or link which was hidden in the step above.

[0038]   A means to unhide a group such that it will
again be displayed on the screen displayed by the URL

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navigation graphical user interface of the URL
navigation means is illustrated in FIGS. 12 and 13.
The Group to be unhidden is selected then the Edit
button 63 is clicked upon as illustrated in FIG. 12.
5   Next, the hide group check box which is checked is
unchecked by clicking the cursor within the box and
the change is saved by clicking on the OK button 62
as illustrated in FIG. 13. As illustrated in FIG.
14, these steps result in the Groups List 102 now
10   again displaying the Music group, for example, which
was previously hidden in the step illustrated in FIG.
8. A means to unhide a hidden link uses the same
general procedure as unhiding a group. A means to
unhide a link is illustrated in FIG. 15 starting with
15   the second window 18, the hidden link is unhidden by
selecting the link to unhide, for example recipe,
clicking on the Edit button 63, then uncheck the Hide
Link records check box 106 by clicking on it as
illustrated in FIG. 16 and save the change is saved
20   or stored by clicking on an OK button 62. The
unhidden link will then reappear on the link list in
the sub-menu 109 of Recipe in the pull-down menu 108
illustrated in FIG. 17.

[0039]   The browser may be used to search the
25   internet or an intranet or other system containing
URLs. Typically, browsers allow URLs of sites to be
saved as favorites or bookmarks. FIG. 18 illustrates
a URL import means for importing URLs found using a
browser into the URL database containing records 20
30   of the present invention. This feature is
illustrated herein in the "HOT SHOT" application
software which includes an import drop-down menu 112
illustrated in the first window 14 which offers
choice of importing favorites from favorites list of
35   microsoft's explorer browser using the Import button
120. The import drop-down menu 112 is brought up by
clicking on an Options button 114. The "HOT SHOT"

application software includes its own searching means illustrated by Search Topic box 116 and Select Engine box 118. Alternatively, the import drop-down menu can be set to import a single URL or choices in the

5   list of favorites in the browser. Another alternative is to have a menu option to import a current URL to which the end-user's computer is linked.

[0040]   Another embodiment of the invention

10 includes a search means for searching on terms in the records as illustrated by a Search button 92 illustrated in an eighth screen 122 illustrated in FIG. 19. Alternatively, the list of groups or the notes may be searched separately. Another embodiment

15 of the invention includes a sort means for sorting records in a group or sorting the groups searching on terms in the records as illustrated by a Sort button 96 on the eighth screen 122 illustrated in FIG. 19. Terms to be searched on the database may be entered

20 on a pop-up menu with a search item entry box. The sort means provides choices of ascending or descending sorting either numerically or alphabetically and choices may appear on a pop-up menu. Searching and sorting are well known means in

25 the fields of databases and spread sheets.

[0041]   While the preferred embodiment of the present invention has been described fully in order to explain its principles, it is understood that various modifications or alterations may be made to

30 the preferred embodiment without departing from the scope of the invention as set forth in the appended claims.

[0042]   Accordingly, what is desired to be secured by Letters Patent of the United States is the

35 invention as defined and differentiated in the following claims: